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Rhythmic Out-of-Phasedress in Olivier Messiaen's "L'Ascension Suite", Movement I

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Rhythmic Out-of-Phasedness
in
Olivier Messiaen's
L'Ascension Suite, Movement I

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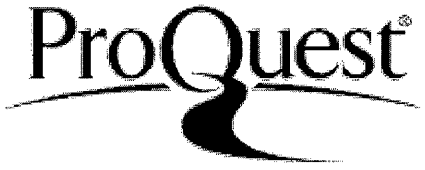

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Acceptance Page

Thesis Acceptance

Acceptance for the faculty of the Graduate College, University of Nebraska, in partial fulfillment of the requirements for the degree Master of Music, University of Nebraska at Omaha.

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Introduction

The purpose of this research is to apply the analytical technique of A Generative Theory of Tonal Music, by Fred Lerdahl and Ray Jackendoff, to Olivier Messiaen's L'Ascension Suite Movement I (1934) for Organ. Application of this technique will test the working hypothesis of "Do these out-of-phase gestures work efficiently in a conventional meter setting?"

Chapter I

Influences upon Messiaen's Life

Olivier Messiaen was born at Avignon on December 10, 1908 and is regarded as one of the most influential composers of the twentieth century. From the view of art critics, Messiaen was "born" before the day of his birth in the literary work "L'Ame en bourgon" (The Soul in Travail) written by his mother, Cecile Sauvage. This cycle is very lyrical and prophetic in nature and predicts the greatness of her son as being an extraordinary talent (Nichols 7). Messiaen's early influences were derived from his parents and the mysticism and principles of the Catholic faith. Messiaen's father, Pierre Messiaen was an English instructor and translator of the complete works of Shakespeare and other English authors. The influences of Messiaen's mother and grandmother left lasting impressions of creativity, fantasy and poetry from the fairy-tale environment in which they reared young Messiaen. Also included in this early stage of Messiaen's life was a strong sense of religious principals and beliefs of the Catholic faith. These early impressions serve as principal elements of inspiration in Messiaen's compositional output. Other youthful impressions upon Messiaen were bird songs to which he devoted much time, notating the calls of numerous species.

Messiaen started to compose at the age of seven, and in 1918, in Nates, Jehan de Gibon instructed Messiaen in the techniques and theories of harmony and introduced him to the music of Claude Debussy. This greatly confirmed Messiaen's conviction to become a composer. Messiaen entered the Paris Conservatorie at age eleven (1919). He studied harmony, counterpoint, fugue, music history, and composition with instructors Jean and Noel Gallon. Other important instructors who shaped Messiaen's career at the Paris Conservatorie included Georges Caussade, Estyle, Marcel Dupré, Maurice Emmanuel, and Paul Dukas. Messiaen received his appointment to the church of "La Trinite" in Paris (1930) after completing his studies at the Paris Conservatorie. In 1936 he joined the staff of Ecole NOrmale de Musica and the Schola Cantorum in Paris. Andre Boucourechliev writes the following comments about Messiaen's Musical Language:

> Messiaen describes himself as "compositeur et rythmicien" which underlines the dominant importance played by rhythm in his musical language. He met Greek rhythm through Dupré and Emmanuel (Boucourechliev 205).

Messiaen's life has been divided into six periods in author Roger Nichols work Messiaen . These six periods (1926-1983) will be discussed in brief and will include style traits of the particular periods. Only compositions for Pipe Organ will be presented from each period along with selected works in those periods where organ works were not produced.

Messiaen's first period (1926-1934) found the composer utilizing extensive chromaticism, modal mixture, modal transposition, irregular meters, rhythmic mixtures, and experiments with bird calls. The organ works that Messiaen composed during this period are as follows:

La Banquet celeste (1926). In this work Messiaen incorporates the use of Mode I & II and the systematic alternation of chromatic modes to invoke an atmosphere in which the following variations are wholly subservient (Nichols 42.). In the first edition Messiaen set this twenty-five measure work in 3/4 meter without metronome indications. However, Messiaen found that organists played the work to fast, so in the second edition (1960) Messiaen doubled the note values and added metronome markings. Roger Nichols offers the following observation of the composer's intentions in La Banquet celeste:

> ...critics might argue that each chord is a sound event and needs only to be appreciated as such, but what what Messiaen really accomplishes is forcing us to rethink our notion of time, so we hear the logic of harmony and melody but without feeling ourselves tied to a mundane beat (Nichols 10).

Diptyque (1930) is an organ work which incorporates the same basic compositional traits as found in La Banquet celeste. Messiaen uses the same melodic idea in two contrasting settings: "la vie terrestre (loud, fast & complex) followed by "l'eternite bienheureuse" (quiet, slow, weak).

L'Ascension, an organ cycle (1934), is a transcription by Messiaen of a earlier orchestral work of the same name with a rewritten third movement and completely new fourth movement. The premise of the entire work is built upon the following titles;

I Majesty of Christ praying that His Father should Glorify Him (prayer from Christ, the Gospel according to St. John)

II Serene Alleluias from the soul longing for Heaven (Mass on Ascension Day)

III Outburst of Joy from the soul before the Glory of Christ which is its own Glory (The Epistles of Paul to the Colossians and to the Ephesians)

IV Prayer from Christ ascending towards His Father (prayer from Christ, The Gospel according to St. John) (L'Ascension Suite 2).

The first movement of L'Ascension gives evidence of a need for conventional tonality with the alternation of tonic and dominant chords at the ends of asymmetrical phrases. The overall goal of this movement is the E (tonic sonority), which is foreign to Mode II. Roger Nichols states that Messiaen's process of contradiction and expansion within this movement makes the E Major sonority stand as the summit of the music's ambition (Nichols 75). Movement II incorporates monody and plainsong in different textures with syncopated and asymmetrical repetitions of the melody (Nichols 16). Movement III is improvisatory in nature with complex thematic material which unifies

the work and gives it excitement. Movement IV uses the chromatic modes and conventional harmonic relationships presented in Movement I, but in an altogether different mood. This movement is extremely slow and is built harmonically upon Modes IV and VII. Roger Nichols offers the following description of Messiaen's textual goal:

> In this piece we can almost feel the effort with which Christ drags himself out of the mire of this world to join his Father in Heaven. Some may find such word-painting, or rather sense-painting, naïve but it is all of a piece with Messiaen's feeling for music not only as a concrete object to be manipulated but as a human activity to which the participants must be physically committed (Nichols 19).

Messiaen's second compositional period (1935-1939) continued the compositional techniques of unequal measures, modal mixture, additive rhythms, extreme contrasts between movements of cyclic compositions, dramatic recitatives and the extreme importance of rhythmic vitality within each work. Messiaen's view of rhythm is demonstrated in the following statement; "Rhythmic music is music which eschews repetition, bar lines and equal divisions, which ultimately takes its inspiration from the movements of nature, movements which are free and unequal in length" (Nichols 21). The study and incorporation of Hindu rhythms into Messiaen's compositions became a permanent feature of his music.

"Râgavardhana", one of Messiaen's most frequently used Hindu rhythmic patterns is an initial series of six values (4,4,4,2, 3,2,) usually followed by two other rhythms of similar values such as those found in Messiaen's third organ cycle "Les Corps glorieux" (Nichols 28). Organ works produced during this period are as follows:

La Nativité du Seigneur (1935), Messiaen's second organ cycle, explores a variety of rhythmic ventures which include Messiaen's imaginative uses of colorful registration and melodic themes. The use of addition to either a single note or, by the interpolation of notes, to a whole phrase is also applied in this work (Nichols 21). Les Corps glorieux (1939), Messiaen's third organ cycle, is a work containing seven pieces of extreme contrast. Monophonic texture incorporated in pieces one, four, and five. Mixed chromatic modes are employed in pieces two and three, and in the sixth piece, Messiaen incorporates colorful registrations. In "Combat de la Mort et dela Vie", the central piece for the entire cycle, Messiaen expands the block chord contrast into something monumental. Messiaen also refers back to "l'Ascension" (1934 version for organ) in giving "Les Corps glorieux" a quiet last movement (Nichols 27).

During Messiaen's third compositional period (1940-1948), we find the composer enlisting in the French army in 1940 and being captured and imprisoned by the German army at Nancy during World War II. Compositions in this period are marked by the extensive use of bird calls and imitative motives, asymmetrical meters, unequal phrase lengths, extensive dissonance, and retrogradable and non-retrogradable rhythms.

This period did not yield any compositions for organ but rather showed the composer's diverse ability and creativity in other idioms. Included in this period are the Quatro pour la fin du temps (1941), which was composed during his imprisonment at Stalag VIII in Silesia in 1940, the Visions de l' Amen (1943), which is Messiaen's celebration of personal freedom after being repatriated (Nichols 30), the Vingt Regards sur l'enfant Jesus (1944), a cycle of pieces for Piano, and Turangalila Symphony (1948) which employs an extremely large orchestra. Roger Nichols offers the following remarks on the significance of these works: " The four works of the years 1944-8 together form a second stylistic plateau" (Nichols 41).

Messiaen's fourth period (1948-1958) showed a movement away from tonality as a major constructive force in his compositions and away from the use of Bird-calls and Hindu rhythms. Improvisational traits in his music start to disappear and the incorporation of permutations of dynamics (Changing dynamics for each note or group of notes), semitone writing, ostinato pedal effects, and Greek poetic rhythms become vital forces. Messiaen used the compositional device "determinism" in place of the chromatic modes of the earlier periods. Determinism in the strict form controls all notes of the scale by pre-determining length of note, type of attack and amplitude of the pitch ("although Schoenberg's 12-note system may have been the in-

spiration it plays no part directly")(Nichols 48). The organ works from this period are as follows:

In Messe de la Pentecôte (1950), Messiaen contradicts the non use of bird song, Hindu rhythms, and classical Greek poetic rhythms during this compositional period and incorporates these techniques and the technique of "interversions" [1] (starting with a limited set of durations and mutating their order, often in two or three parts simultaneously)(Nichols 50). Roger Nichols makes the following observations regarding this work.

> This is a compendium of the improvisations of Messiaen the practicing organist and contains a number of phrases recognizable from the earlier works... the organization is anything but improvisatory (Nichols 50).

Livre d'orgue (1951) also employs the technique of interversions which are applied to Hindu rhythms. The work contains seven movements whose layout is a clear embodiment of the composer's heart and head dichotomy (Nichols 53). Messiaen also published his theoretical work The Technique of My Musical Language (1950). Gilles Tremblay gives an overview of this writing;

> A number of correspondences among various aspects of style and technique in Messiaen are readily apparent: added notes, harmonically-added values rhythmically; polymodality-polyrhythms; symmetrical modes-palindrome rhythms ("the charm of impossibilities and the relation between different subject matters",...)(Tremblay 477).

Messiaen lays out a clear outline of certain principles of construction he employed in composition in this descriptive work.

Messiaen's fifth period (1960-1971) found the composer returning to earlier interests in his compositions such as the use of pre-Renaissance writing, use of the multiple "interversions" technique, musical gestures and cliches, works of extreme contrast between movements. and bird effects. The organ works are as follows:

Verset Pour La Fete De La Sainte Trinite (1960) contains nine pieces based upon five quotations from the Apocalypse to which the composer was led by the apocalyptic nature of the trombone's sound. From the store of plainsong he chose four alleluias, treating them in both a free and strict manner (Nichols 68). This is also the first work of Christian inspiration that Messiaen wrote since 1948.

Meditations sur le Mystere de la Sainte Trinite (1969) is a set of nine pieces that synthesize almost all of Messiaen's compositional devices to this point in time. Messiaen incorporates a new device which he calls "communicable language" Roger Nichols explains;

> He has formed this by assigning a definite pitch and duration to each letter, beginning with the natural pitches of A-H but extending this musical alphabet by arranging the letters according to their sonic groups, as linguals, sibilants etc. With this language he then expresses in music

> three quotations from the "Summa of St. Thomas Aquinas",.. Much more interesting is why he thought the language necessary in the first place; he invented it "as a game to renew my thought" (Nichols 77).

Messiaen's sixth compositional period (1971-1983) depicts the inspiration and majesty of the Western United States, which he visited in 1971. The primary compositional traits of this period are diversity of timbre, arpeggios of indeterminate pitch, leitmotives and jagged vocal effects. Messiaen also increased the size of his orchestral components, defending the increase of power as an impression of full spirituality. Compositions for orchestra (on a large scale) became the focus of Messiaen's compositional output during this period with no works for organ. Des canyons aux étoiles (1971-74) for orchestra, has its inspiration from Messiaen's visit to Utah in the early 1970's. Here Messiaen incorporated compositional traits from the past twenty years along with several new discoveries in the field of timbre. This work describes the space between the earth and stars and the ascension through that space to the heavenly city (Nichols 81). Roger Nichols outlines the movements and their arrangement:

> It is no surprise, given Messiaen's love of symmetry and prime numbers, that the movements are split into three groups, consisting of five,two, and five movements. Each group ends with a portrait of the Utah landscape-Cedar Breaks (V), Bryce Canyon (VII),and Zion Park (XII)- and this grounding in geographical

> reality is set off against what one might venture to call flights of theological or ornithological imagination, although neither theology nor ornithology is excluded from the three movements themselves (Nichols 81).

Messiaen used his creative gift of bird song for the natural settings of audible scenery throughout the work.

St. Francois d' Assise (1975) is an opera commissioned by the Paris Opera and premiered in 1983. Roger Nichols gives the following brief description of the work:

> Messiaen follows Wagner in writing at length to his own libretto and in using leitmotifs; he follows Debussy in his orchestra sparingly and in allowing the words to be heard; and he follows his own previous development in including practically everything he had ever used in a choral or orchestral work before, except for solo piano (Nichols 86).

This will conclude the review of Olivier Messiaen's life and achievements from 1908 thru 1983 (according to Roger Nichols Messiaen). The ensuing research will examine the first movement of Messiaen's L'Ascension Suite for organ (1934). This movement contains non-conventional phrase groups which exist in an "out-of-phase" fashion within a conventional metric setting. In previous attempts to analyze such vague forms of irregular phrases, traditional formats of analysis could not generally answer the question of "why" these groups existed,

In this research the recent theoretical findings of Lerdahl & Jackendoff's A Generative theory of Tonal Music break through the old bonds of traditional thinking and offer fresh rule-governed principles that explain these "techniques" of musical composition.

Chapter II

The Theories of Generative Analysis applied to Olivier Messiaen's L'Ascension Suite Mvt. I

Before initiating an analytical analysis upon the musical gestures found in Messiaen's L'Ascension Suite Mvt. I, based upon the theoretical principles of Lerdahl & Jackendoff's A Generative Theory of Tonal Music, a general overview of the movement's harmonic elements will be given.

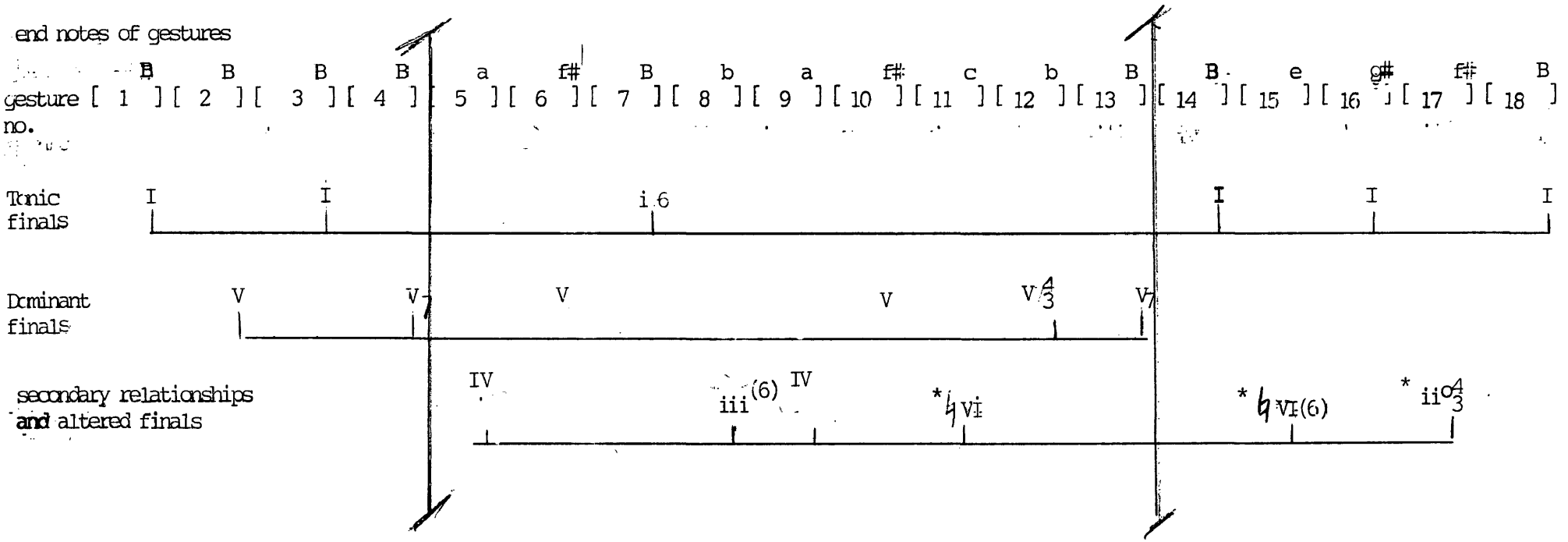
Olivier Messiaen establishes the first movement of the L'Ascension Suite in the tonal center of E Major, placing within the confines of the movement's twenty-two measures a total of eighteen musical gestures of varying rhythm, length and dynamics. The following illustration (Fig.I) outlines Messiaen's choices of cadential tonalities placed at the ends of each gesture throughout the entire movement. Each segment on the graph represents each individual gesture along with the highest sounding note in the soprano and the degree of tonality relevant to the key of E Major. Author Roger Nichols refers to these cadential points within movement I and offers the following opinion:

> The alternation of tonic and dominant chords at the ends of phrases indicates some respect at least for the value of conventional tonality although the asymmetry between phrases reduces it's impact, as do the continuous syncopations (Nichols 16)

HARMONIC OVERVIEW OF GESTURES

IN

L'Ascension Suite, Mvt. I



* altered chords

Figure I. Harmonic Overview of Gestures Mvt. I mm. 1-22 from Olivier Messiaen's L'Ascension Suite. Paris: Alphonse Leduc & Cie, 1934.

Within the framework of this movement lies the "tonal goal" of the E Major sonority (m.22). This E Major sonority provides harmonic and melodic unity to a movement which uses asymmetrical phrase lengths and syncopation within a conventional meter setting. Messiaen's strategic placement of the tonic and dominant cadential points, along with the fifth (B) of the tonic sonority, works not only as a unifying force within the movement, but as a prolongation of the tonic sonority. This single B♮ pitch functions as a device that unifies all eighteen gestures within the movement. The following example illustrates the first movement's cadential divisions and harmonic prolongations.

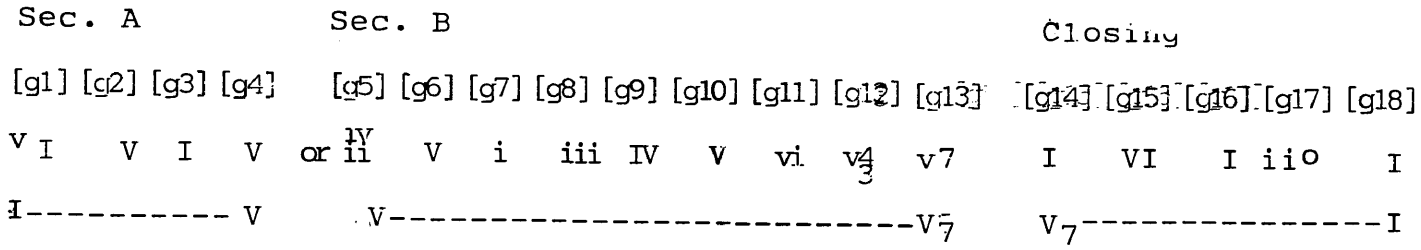


Figure 2. Gestural Harmonic Outline of Movement I from Olivier Messiaen's L'Ascension Suite. Paris: Alphinse Leduc & Cie, 1934.

Section A, figure 2, contains Gestures I-IV which shift back and forth between tonic and dominant endings. The controlling sonority of this section is the dominant. Section B acts as a developmental section within the movement. This section opens on a dominant (inverted) with an added sixth. The B♮ in the soprano of Gesture V prolongs the B section without resolution to the tonic. This section can be related to the developmental sections of traditional tonal works in which the dominant

contains elements of harmonic experimentation that progress away from the tonic tonal center. The remaining gestures comprise the Closing Section of movement I. This section duplicates and elaborates on elements from both previous sections. It opens with gesture XIV, which is an exact restatement of gesture I. The tonic cadences of gesture XVI unify the remaining gestures until the arrival of the tonic sonority in stable metric position in measure 22 with the fifth of the tonic (B♮) in the soprano. It is interesting that Messiaen has set the final measure (m.22) in 12/8 meter. This measure is the conclusion of gesture XVIII which is set in 15/8 meter, even though its beginning lands on the second eighth-note. The gesture progresses through five vertical sonorities ending in measure 22, for the first time within the work on the tonic sonority, on the first beat of the measure in 12/8 meter. This placement draws the movement to a point of solid conclusion.

An explanation of "why" the theoretical principles of Lerdahl & Jackendoff's A Generative Theory of Tonal Music were selected as the basis of analysis for this research is offered at this point:

In the preface of A Generative Theory of Tonal Music, Lerdahl & Jackendoff state that their early research with contemporary linguistics along with the insights of recent music theory, were synthesized to create a methodology which would produce formal systems that would express insights from both areas of concentration.

Lerdahl & Jackendoff offer the following purpose and direction of this form of analysis:

> ...As we develop our rules of grammar, we often attempt to distinguish those aspects of the rules that are particular to Classical Western tonal music from those aspects that are applicable to a wide range of musical idioms. Thus many parts of the theory can be tested in terms of musical idioms other than the one we are primarily concerned with here (Western Tonal Music). (L&J xiii)

The primary focus of this theory deals with the analysis of tonal music, as previously indicated. However, the reason for the selection of this analytical technique for the L'Ascension Suite Mvt. I, falls into the category of what Lerdahl & Jackendoff label "human cognition" and how the listener perceives what he or she listens to, and organizes it into meaningful patterns. The gestures in the first movement of L'Ascension Suite fall into the psychological domain of perception. This theory assists in the analysis of "out-of-phase" passages that exist within this movement in a rule-governed format, something that is not possible with traditional tonal principals. This analytical technique also works well in this particular situation because of its devices that give formal explanations from rhythms which do not fit into the prescribed 12/8 meter framework of this movement. Another important factor is that Western tonal music is "goal oriented" in nature. Each individual gesture whether it is "in-phase"

or "out-of-phase" has a goal point within it. This theory has developed prescribed rules which substantiate the findings of such smaller "goal points" that exist throughout a work, how they function, and how they unify the "whole" of the entire work. These are the primary reasons for the selection of "Generative Theory" as the basis of analysis in this research.

In the first movement of L'Ascension Suite, the composer has placed non-conventional phrase groups in a conventional 12/8 meter. These phrase groups will be labeled as "gestures" which are defined as " the process by which a listener of any particular work organizes the sound signals into units such as motives, themes, phrases, periods, theme-groups, sections, and the piece itself" (Lerdahl & Jackendoff 12).

Before continuing with the analysis, some basic terminology from A Generative Theory of Tonal Music is in order.

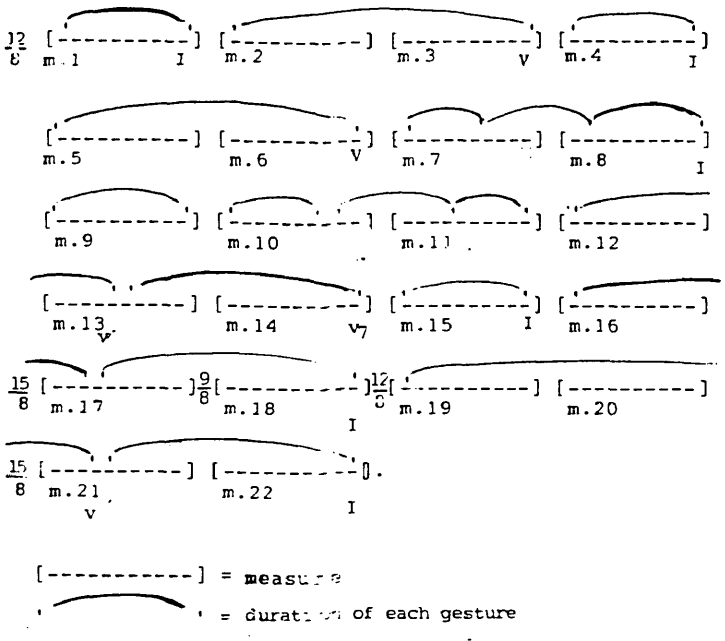
Time-Span-Reduction (T.S.R.) is the process of indicating elaborations and/or elements which elaborate other systems within a section or the whole of the work. This form of analysis is fashioned after the methodology of generative linguistics, whose goal is linguistic theory is to find rules that assign correct structures to sentences(L & J 113). Lerdahl & Jackendoff outline their reasons for this choice of analysis and the use of syntactic trees:

> ...linguistic syntactic trees relate grammatical categories, which are absent in music. This basic fact is one of the crucial differences between language and music. All natural languages have nouns, verbs, adjectives, and the like. Linguistic trees represent is-a relations: a noun phrase followed by a verb phrase is a sentence, a verb followed by a noun phrase is a verb phrase, and so fourth. There is no musical equivalent to this situation. Rather, the fundamental hierarchical relationship among pitchevents is that of one pitch-event being an "elaboration of" another pitch-event; the latter is the structurally more important event of the two (Lerdahl & Jackendoff 113-14).

Lerdahl & Jackendoff further note that "the transference of linguistic trees into their musical counterparts would be misguided from the start...and that they develop purely musical trees, that express hierarchical structures with precision" (L&J 113). Time-Span-Reduction (T.S.R.) is the label given to "tree branching" in this form of analysis. The basic function of branching is to indicate dominant and subordinate details within a selected time-span.

The first movement of L'Ascension contains eighteen time-spans or musical gestures. Five of these eighteen gestures are exact duplicates. Observe the graphic illustration of all eighteen musical gestures presented in Figure 3 along with an outline of duplicated gestures.

GESTURE ILLUSTRATION



DUPLICATED GESTURES

[Gesture]	I	III	XIV
[measure]	1	4	15
		&	
[Gesture]	VI	X	
[measure]	7	10	

Figure 3. Graphic Illustration of Musical Gestures and Duplicated Gestures found in Olivier Messiaen's L'Ascension Suite Movement I. Paris: Alphonse Leduc & Cie, 1934.

The second phase of analysis deals with the comparison of the given metrical indication of a selected work and how the physical surface of the music fits within the conceptual framework of a given meter. This phase of analysis is labeled "Time-Span-Segmentation" (T.S.S.). Time-Span-Segmentation is

The process of taking the given meter and dividing it into equal divisions of the beat from the longest to the shortest duration. The event(s) which conform to equal subdivisions of the beat are labeled as "in-phase" with the meter. The event(s) which do not conform to the equal division of the meter are labeled "out-of-phase". Observe both the Time-Span-Reduction (T.S.R.) and Time-Span-Segmentation (T.S.S.) illustrated in Figure 4 Gesture I.

Gesture I

Ex. A

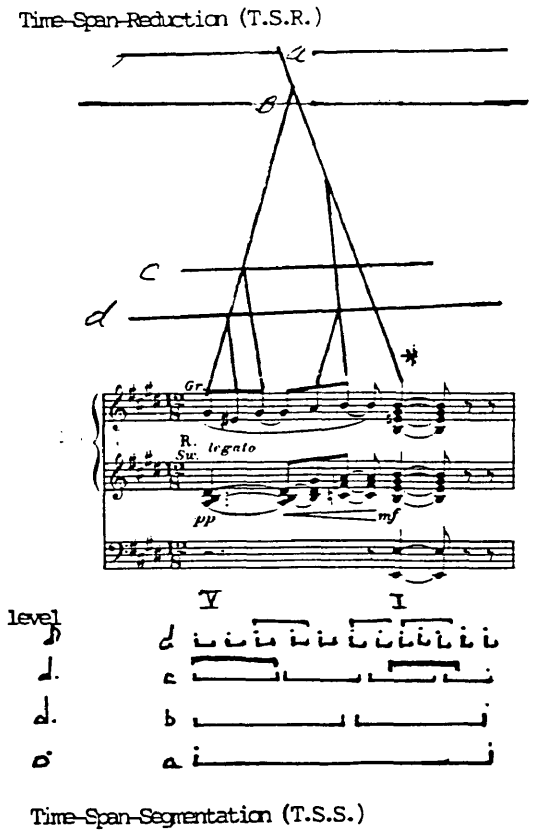


Figure 4. Time-Span-Reduction & Time-Span-Segmentation of Gesture I, mm.1, from Olivier Messiaen's L'Ascension Suite Mvt. I. Paris: Alphose Leduc & Cie, 1934.

The branching indicated in Figure 4 (T.S.R.) divides into four metric levels of dotted-whole, dotted-half, dotted-quarter and eighth-note as indicated by vertical lines. These four levels correspond to the four levels indicated a thru d in the Time-Span-Segmentation. The function of the dotted brackets under each level (⌊—⌋) indicates where each unit of a particular subdivision of the meter falls. These indications are labeled as "in-phase" with the 12/8 meter. Inverted brackets (⌜—⌝) indicate unequal groupings of the pulse at a particular level (as those found in level c and d in figure 4. are the indicators which determine "out-of-phasedness" within the time span.

The third phase of analysis is to assign prescribed rules that verify the chcice of selecting a particular group of notes. These rules answer such questions as; what determines a group? what are the dominant and subordinate units within the group?, and is it "in-phase" or "out-of-phase" with the given meter? Lerdahl & Jackendoff label these rules as Well-Formedness Rules. The categories are as follows:

GWFR's	Grouping Well-Formedness Rules
GPR's	Grouping Preference Rules
MPR's	Metrical Preference Rules
TSRWFR's	Time-Span Well-Formedness Rules
TSRPR's	Time-Span Reduction Preference Rules
PRWFR's	Prolongational Reduction Well-Formedness Rules
PRPR's	Prolongational Reduction Preference Rules

(L.&J 345)

These Well-Formedness Rules will be incorporated into the analysis of L'Ascension Mvt. I, along with a "global analysis" or Time-Span-Reduction of the entire movement. Lerdahl and Jackendoff offer the following definitions for "Well-formedness rules and the part they play in Generative Theory:

> We propose four such components, all of which enter into structural description of a piece..."grouping structure" expresses a hierarchical segmentation of the piece into motives, phrases, and sections. "Metrical structure" expresses the intuition that the events of the piece are related to a regular alternation of strong and weak beats at a number of hierarchical levels. "Time-Span reduction" assigns to the pitches of a piece a hierarchy of "structural importance" with respect to their position in grouping and metrical structure. "Prolongational reduction" assigns to the pitches a hierarchy that expresses harmonic and melodic tension and relaxation, continuity and progression ... (L & J 8-9).

The "tonal goal" or main event for the entire movement is clearly the arrival of the tonic E Major triad in m.22 (gesture XVIII). This tonic triad has previously been established as basis for the entire movement and controls each of the eighteen individual gestures as they link together to make the whole of the work.

The tonic sonority presents itself for the first time at the end of measure 1, Gesture I. The tonic sonority is designated as the "head" event (goal) within this one measure time-span. The well-formedness rule that is applicable to this particular situation is TSRPR 9 which states: "In choosing the head of a piece (or group), prefer the structural ending to the structural beginning "(L & J 350). The tonic sonority also qualifies as a "phenomenal accent" which is defined "as any event that gives emphasis or stress to the movement in the musical flow" (L & J 17). Observe the placement of the "head event" in Gesture I, figure I at the asterisk. The tonic sonority falls on the eighth eighth-note pulse of the first measure and lasts the duration of three eighth-notes. Observe the metrical levels of the Time-Span-Segmentation (T.S.R.) presented under gesture I. At level "d",(eighth-note-level) the "head" sonority is off the metrical beat pattern established by 12/8 meter. This puts the "head" and the entire gesture "out-of-phase". Levels b & d both show the points of "out-of-phasedness" present in this particular time-span. The Metrical Preference Rule MPR 5a also may be applied to this gesture. "Prefer a metrical structure in which a relatively strong beat occurs at the inception of a relatively long duration of a pitch" (L & J 348). The E Major (tonic) sonority becomes the longest pitch-event within this time-span, thus this rule is applicable. Part f of MPR 5 could also qualify in this particular case because of the dynamic marking which is indicated below the tonic sonority. Part f states: "Prefer a metrical structure in which a relatively strong beat occurs

at the inception of a relatively long duration of harmony in the relevant levels of the time-span reduction" (L & J 348). In this case the syncopation or accent of the "head" event in Gesture I is naturally accented. Messiaen restates this opening gesture at two additional points within the movement in exactly the same metrical position. These restatements are found in Gesture III (m.3) and Gesture XIV (m.15). The dominant right branch indicated over Gesture I shows that the tonic sonority is the unifying "goal" for this gesture. The subordinate left branch contains elements which begin "in-phase" with the meter yet are not harmonically and rhythmically strong enough to maintain overall control of the entire gesture because of the syncopation of the "out-of-phase" notes which occur on the third and fourth eighth-notes in measure 1.

Gesture II (mm.2-3)presents a time-span of twice the duration of Gesture I. Observe the Time-Span-Segmentation under Gesture II in figure 5. This particular gesture has a duration of twenty-two eighth-note beats spanning two measures in 12/8 meter. The designated "head" event for this time-span ends on the third beat of measure 3 "in-phase" on the dominant sonority of E Major. The dominant sonority on the strict sense qualifies as a "metrical accent" which Lerdahl & Jackendoff identify as "any beat that is relatively strong in its metrical context"(17). However, the term "structural accent" can also apply because the accentuation of the dominant sonority is "caused" by harmonic/melodic points of gravity within the time-span of

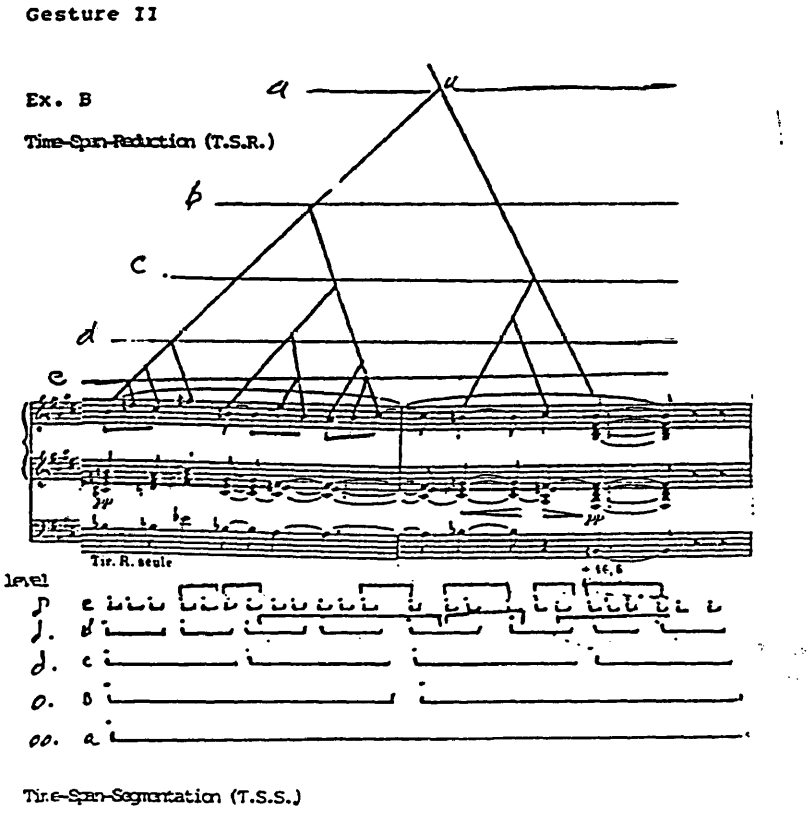


Figure 5. Time-Span-Reduction & Time-Span-Segmentation of Gesture II, mm. 2-3 from Olivier Messiaen's L'Ascension Suite Mvt. I. Paris: Alphose Leduc & Cie, 1934.

Gesture II. TSRPR 1 (Metrical Position) states: Of the possible choices for head of a time-span T, prefer a choice that is in a relatively strong metrical position " (L&J 160). This is the preferred rule for the selection of the dominant sonority as "head" in this gesture. Observe the ♩. dotted-quarter level "out-of-"phase" indicators in the time-span-segmentation under Gesture II (Figure 5). The prolongation of the vertical sonorities in level d create tension against the moving eighth-note pulses in level e which harmonically push to the resolution of the dominant tonality. The placement of the Bb in the pedal against the B♮ of the soprano also adds to the prolongation of tension

with the B♭ repeating at three points in the melodic contour of Gesture II before landing on the dominant sonority. The right branch becomes the dominant force within this gesture and the left branch becomes subordinate. Observe the c♯ in the soprano on the twelfth eighth-note pulse of measure 2 tied to the first eight-note pulse in measure 3 at level e. This "c" creates an off-beat "phenomenal accent" which prolongs the metric ending of measure 2 and it's harmonic content into measure 3 for resolution at the dominant. This is the primary circumstance which creates "out-of-phasedness" within the melodic pattern of this gesture. Other gestures from this movement will be discussed along with a "global" overview of the entire movement in Chapter III.

Chapter III
A "Global" Analysis of Musical Gestures contained in L'Ascension Suite Mvt. I

The analytical procedure of "Prolongational Reduction" will be presented in this chapter. The four basic principals of this process deal with the determination of what specific elements within a "global" time-span prolong or connect each smaller element of the time-span reduction to the whole of the piece.

Figure 6 is a "global" presentation of the twenty-two measure time-span of Olivier Messiaen's L'Ascension Suite Mvt. I. As discussed and determined in the previous chapter, the E Major tonality (and single pitch "B") is the primary "head" event for the movement. The alternation of tonic and dominant cadential points are indicated within the reductive levels of the "global" time-span reduction along with prolongational elements of varying degrees of stability.

As pointed out previously, the determining factor for constructing a global prolongational reduction of a work is to select the individual head events (goal points) of the individual regions within the movement that unify or prolong the tonal center of the composition throughout each individual region or gesture. As the following analysis proceeds, refer to Figure 6. (Global Prolongational Time-Span Reduction). The rules which are associated with prolongational reduction are Prolongational Reduction Preference Rules (PRPR's)(L & J 217). The global time-span pro-

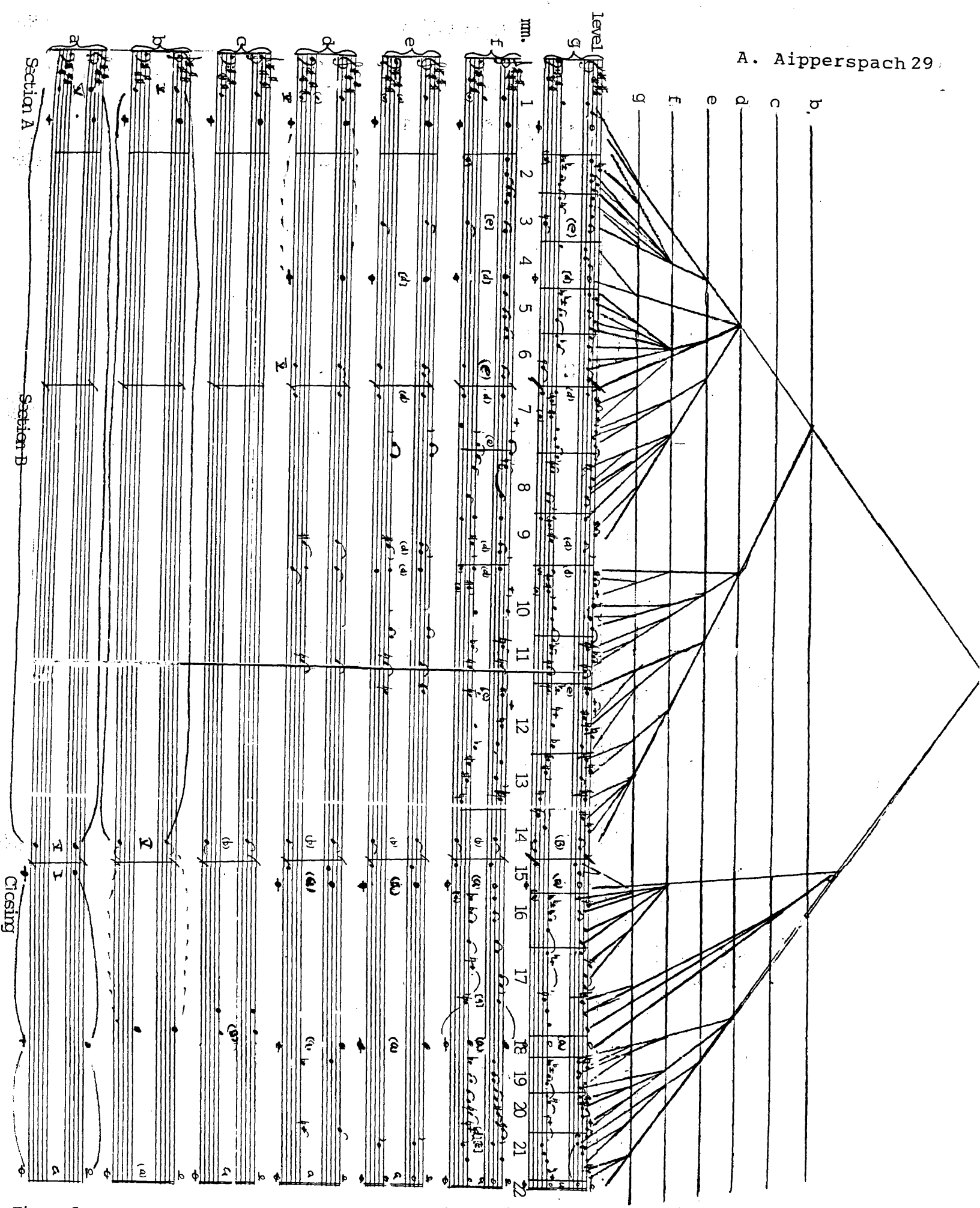


Figure 6. Global Prolongational Time-Span Reduction (mm.1-22) from L'Ascension Suite Mvt. I

Figure 6. Global Prolongational Time-Span Reduction of Gestures I-XVIII (mm.1-22) from Olivier Messiaen's L'Ascension Suite Mvt. I. Paris: Alphose Leduc & Cie, 1934.

longational analysis will be presented systematically in levels beginning with level g thru level a. Each level will present all of the prolongational elements which are relevant to the particular level under observation throughout the entire movement before progressing to the next hierarchical level.

The elements contained in level g are those closest to the musical surface of the work. As each level progress downward in Figure 6., the prominent prolongational elements of each region begin to reduce those elements from the previous reductions that are of less significance. Section A (mm.1-3, Gestures I-IV) constitutes the first prolongational region within the global time-span of this work. The opening "head" event for Section A appears at the end of Gesture I (m.1) on the tonic sonority with the fifth of the tonic sonority (B) in the soprano. Since this "head" event appears so close to the beginning of this work, it takes on the designation as the element to which the main subordinate left branch of the prolongational time-span reduction is connected. The opening $\overset{g\#}{V}$ on beat 1 (m.1) is metrically stable in its placement at the beginning of measure 1, but because the "head" event at the end of Gesture I creates out of phasedness with a "phenomenal accent" on the eighth eighth-note pulse, the $\overset{g\#}{V}$ (dominant sonority) is overridden in prolongational importance and receives a left branch (level g). Gesture III (mm. 2-3) opens with a B in the soprano with a mixed sonority in the bass. This B prolongs the ending B of measure 1, therefore it branches to

level f. The F on the second beat of measure 2 is subordinate to the prolongational strength of the B within this gesture so it branches subordinately to the previous B with a weak left branch. The syncopated B which occurs on the sixth eighth-note pulse of measure 2 (level f) contains the subordinate E (eighth pulse in m.2), therefore it branches with a weak left branch to the syncopated B. The downbeat of measure 3 is obscured by the syncopation of the C which ends the twelfth pulse of measure 2 and displaces the downbeat of measure 3 creating out-of-phasedness (level f). The remaining element which relates to level g in Gesture II is the weak restatement of the C on the fifth eighth-note pulse of measure 3. Gestures III & IV (mm.3-6) duplicate the same branching procedure(at level g) as those found in Gestures I & II.

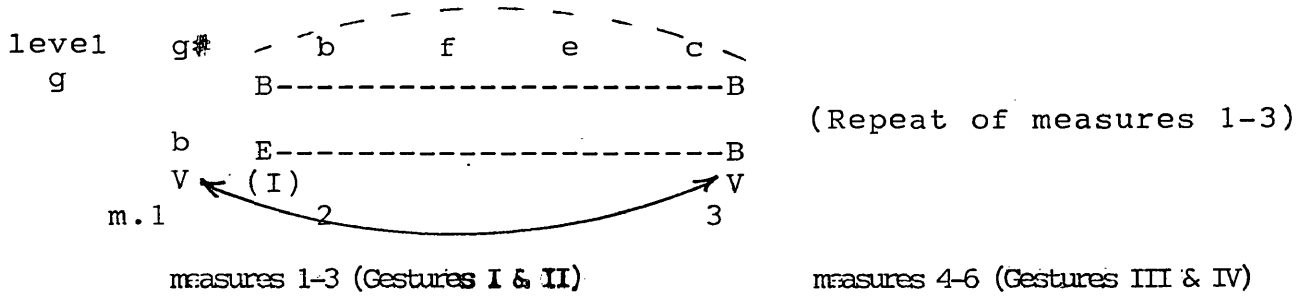


Figure 7. Hierarchical Reduction of Prolongational elements in Section A (Level g, mm.1-6) from Olivier Messiaen's L'Ascension Suite Mvt. I. Paris: Alphose Leduc & Cie, 1934.

Figure 7 outlines the prolongational elements at level g in Section A. The elements of the dominant sonority are the controlling factors within this time-span.

Level g in Section B (mm. 7-14) opens with the dominant sonority in the bass with B in the soprano. The following synco-

pated g# (eighth-note pulses 3-4 in m.6) is a prolongation of the dominant sonority because the g# is the third of the tonic sonority in E Major and also creates "out-of-phasedness" in this particular gesture (Gesture V). It receives a subordinate left branch that connects to the ending sonority of Gesture V (level f) on a IV sonority with f# in the bass. Gesture VI (m.7) prolongs both the dominant V and subdominant IV sonorities set up in Gesture V. Since the dominant is stated at both the beginning and end of this three-chord gesture, the middle subdominant (IV) sonority receives a subordinate left branch at level g which branches to a strong right prolongational branch at level e at the end of measure 7 and the end of measure 8. Gesture VIII (m.9) begins on the second beat in stable metrical position opening on an altered mediant (III) sonority with a D in the soprano which on the surface is foreign to the tonic sonority with one exception. The supporting vertical sonority contains an octave B which sustains throughout the entire gesture. Therefore, this altered sonority receives a right branch at level f. The following E branches to the previous D at level f, and the repeating D subordinately branches to the ending tonic sonority with a B in the soprano. Gesture VIII (m.9) duplicates the same analysis as Gesture V (m.7) with the exception that the final sonority relates to the mediant (III) of E Major (spelled $\begin{matrix} d\# \\ b \\ g\# \end{matrix}$ with an added e#) along with a prolongational B in the soprano. Since this B is also supported by an underlying g#, it is appropriate to refer to this sonority as an altered tonic (spelled $\begin{matrix} d\# \\ b \\ g\# \\ e\# \end{matrix}$) which receives a right branch at level f. At this point in Section B, the composer places commas at the ends of

Gestures V & IX which mark the ends of a series of ideas. Observe the Prolongational Time-Span Reduction (PTSR) in measure 10 (figure 6). The elements of Gestures IX thru XI (mm.10-11) parallel the analysis of Gestures V thru VII (mm. 7-8) with the exception that Gesture XI (m.11) closes with a ♮VI (C Major) sonority. Since this C Major sonority is harmonically unstable and needs to resolve to the dominant sonority at some point further on in this particular time-span, this C Major event connects at level d with a subordinate left branch. Gesture XII (m.12) at level g harmonically descends downward with a series of syncopations that lead back to the dominant in inversion in measure 13. The opening D# of Gesture XII is supported by a mixed sonority that begins the downward progression of six sonorities to the dominant V_7 in measure 14. The branching (at level g) for these progressions include both the highest and lowest pitches in the Global Time-Span Reduction (Fig.6) in this particular instance. In Gesture XIII (mm.13-14) however, the vertical sonorities (d#,c#, f♮) connect to the dominant right branch of the closing dominant sonority (V_7) at the end of Section B (Gesture XIII). This section prolongs the dominant V-to-V_7 sonority throughout measures 7-14.

Section C (Closing Section) repeats for the third time the elements of Gesture I (m.1) in Gesture XIV (m.15). The elements of Gesture XV (mm.16-17) duplicate the elements of Gesture II (mm.2-3) with the exception that the ending sonority is a restatement of the ♮VI (C Major sonority) from measure 11 which connects to level f with a right branch. The composer again marks

commas at the end of Gesture XV (mm.16-17) to create tension and then builds up to the tonic sonority thru a series of four vertical progressions in Gesture XVI (mm.17-18). The only sonority applicable to level g from Gesture XVI is the opening ♮VI which branches with a subordinate left branch to the following subdominant (IV) sonority. The elements of the remaining gestures (XVII & XVIII, mm,19-22) duplicate the elements found in Gesture XV (mm.16-17) which ended the ♮VI with an E in the soprano. The difference this time is that the ending syncopated E (in Gesture XV) is raised a whole-step to F# at the end of Gesture XVII (mm.19-20). Since the tendency of F# is to resolve upward towards G# (third of the tonic E Major sonority), Gesture XVIII disrupts the direct succession to the final tonic goal by a final series of five upward progressions. The branching for the final two vertical sonorities connects to the main right branch of the Prolongational Time-Span Reduction (Fig. 6)with two subordinate left branches (level g). Thus, the elements of level g consist of pitches which have weak prolongational strength yet are necessary to the continuity of the composition.

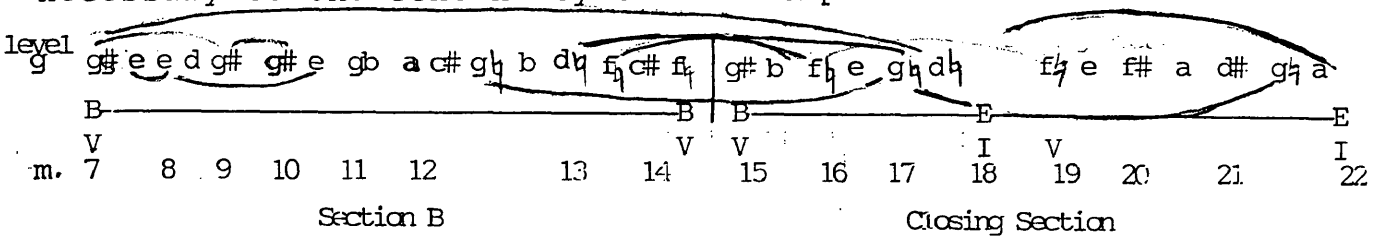


Figure 8. Hierarchical Reduction of Prolongational elements at Level g in Section B (mm.7-14) & Closing Section (mm,15-22) from Olivier Messiaen's L'Ascension Suite Mvt.I. Paris: Alphose Leduc & Cie, 1934.

The first element of level f begins with the first beat of Gesture II (mm.2-3) on a B pitch which branches subordinately to the ending B pitch (Dominant V sonority) at the end of Gesture II (m.3, level 3) on the seventh eighth-note pulse. The syncopated B in measure 2 (sixth and seventh eighth-note pulse) prolongs to the first B of Gesture II (m.2) followed by a syncopated C (pulse twelve & one, m.2-3) and another syncopated B on pulses two thru four in measure 3. These three syncopations branch subordinately to the ending dominant sonority of Gesture II in measure 3 with subordinate ~~left~~ branches (level f). The elements of Gestures III & IV (mm,4-6) duplicate the branching and prolongational elements presented in Gestures I & II at level f. Therefore, the prolongational elements of Section A at level f are presented in Figure 9.

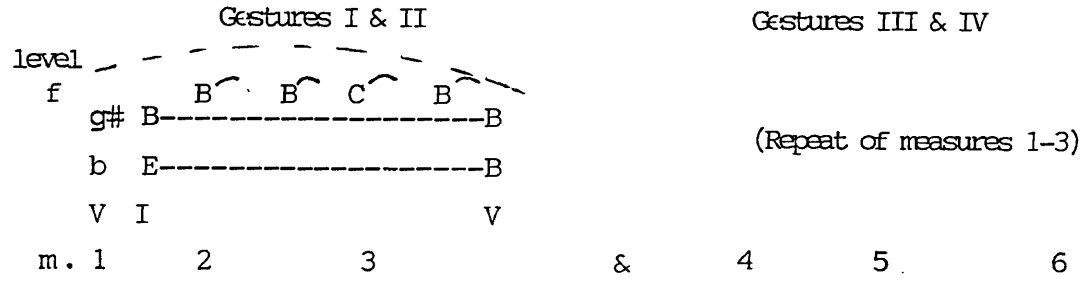


Figure 9. Hierarchical Reduction of Prolongational elements at Level f in Section A (mm.1-6) from Olivier Messiaen's L'Ascension Suite Mvt.I. Paris: Alphose Leduc & Cie, 1934.

As previously stated in level g, Section A is controlled by the dominant sonority as is evident by it's beginning and ending points of harmony.

The first element at level f in Section B occurs at the end of Gesture V (m.7) on the subdominant (IV) sonority (pulse 7-8). The out-of-phasedness caused by the metrical instability of this subdominant sonority is not strong enough to override the metrically sound dominant sonority at the beginning of Gesture V, thus this subdomiant sonority (with A in the soprano) branches subordinately to the beginning dominant sonority of Gesture V with a right strong branch. Gesture VI (mm.7-8) contains two statements of the dominant sonority. The first statement of the dominant (m.7, pulse 9-10) syncopates the entrance of this strong dominant-based gesture, and since this "phenomenal accent" appears at the beginning and ending of this three-chord gesture, the first statement of the dominant sonority branches subordinately at level f to the endpoint dominant sonority of Gesture VI (level e). Gesture VII (m.8) presents on the surface a different value of elements from all previous gestures. The opening sonority can only be related harmonically to the tonality of E Major by the octave B's that sustain throughout the secondary stave. This octave B is structurally and metrically sound, falling on the second beat of measure 8. Therefore, this octave B prolongs the previous dominant sonorities from Gesture VI by the single pitch B. This octave B is indicated in the global time-span reduction as a whole-note tied to the ending dominant sonority at the end of measure 8. The branching for this octave B receives a left branch joined subordinately to the dominant sonority at the end of Gesture VIII (m.9)(level f). Gesture VIII (m.9) duplicates the elements contained in Gesture V (Section B) with the exception

that the ending sonority of Gesture VIII relates to the prolongational power of the tonic sonority in measure 1 (Gesture I, Section A). Although the harmonic spelling of the tonic sonority at the end of Gesture I and ending sonority of Gesture VIII are altered, the prolongational strength of the g# and b in both sonorities are strong enough to compliment each other. Therefore, the ending altered sonority of Gesture VIII receives a strong right branch (level d) which connects to the main subordinate left branch of the global time-span reduction which begins on the tonic sonority the end of measure 1.

Gestures IX & IX (mm. 10-11) duplicate the elements found in Gestures V & VI (mm.7-8) with the exception that the branching for the opening sonority of Gesture IX connects to the main right branch (at level d) that emerges from the ending dominant V_7 sonority in Gesture XIII (m.14). Gesture IX opens on an altered sonority which resolves to a C Major triad . This opening sonority is in strong metrical position (receiving a branch at level f) but the syncopation of the ending C Major sonority overrides the metrically stable position of the opening altered sonority thereby creating out-of-phasedness within this particular time-span. Thus the ending C Major sonority branches to level d. Gesture Gesture XII (mm.12-13) contains three descending elements that lead directly to the arrival of the dominant V_7 sonority (D# soprano, D♭ bass) which begins on beat one of measure 12 (level e). The second element (D♮ soprano, B bass) on the third beat of measure twelve descends down a whole-step from the first

element landing on a mixed sonority with a sustained B in the bass. This B (single bass pitch) wants to resolve harmonically downward to the tonic of E Major but is interrupted in it's goal by the resolution to the dominant sonority (V_7) on the sixth eighth-note pulse in measure 13 (third element) with the fifth (f#) in the bass. These three elements branch subordinatley to the strong right branch that marks the end of Section B (m.14). Gesture XIII (mm. 13-14) closes Section B prolonging the dominant sonority from the endpoint of Gesture XIII with the root of the dominant in the bass (B) this time. This ending dominant sonority will be discussed at level b . The following example illustrates the prolongational elements of level f in Section B.

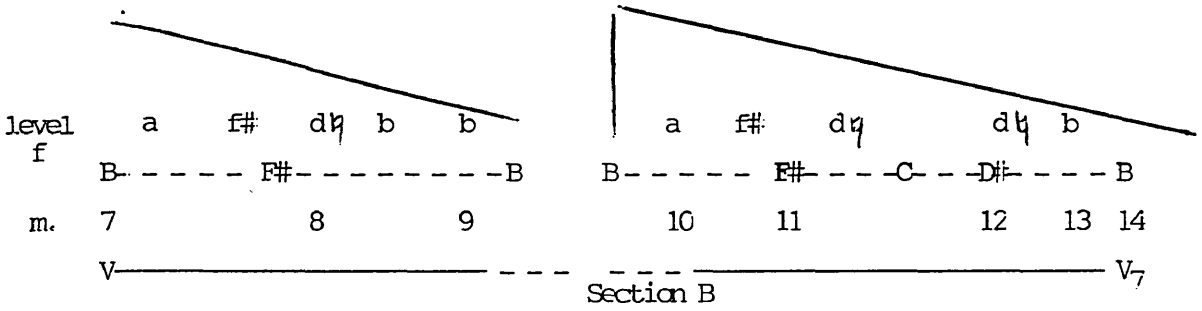


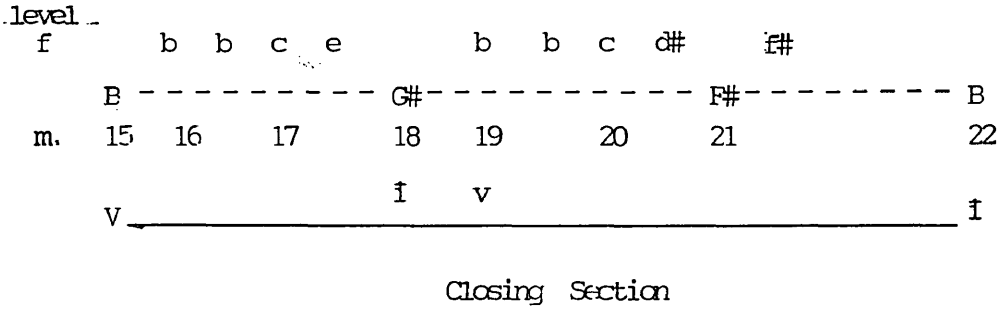
Figure 10. Hierarchical Reduction of Prolongational elements at Level f in Section B (mm.7-14) from Olivier Messiaen's L'Ascension Suite Mvt.I. Paris: Alphose Leduc & Cie, 1934.

The above illustrates those elements which prolong the dominant sonority in Section B. The elements contained within the first three measures of Section B branch at level d (with a right branch) with the elements of Section A at level d (with a left branch (observe level d branching in mm.1-14 in Figure 6.). The reason for this determination in branching is the harmonic relationship of the opening tonic sonority in Gesture I and the closing sonority of Gesture VIII previously discussed.

The elements of Gestures IX & X duplicate the elements of Gestures V & VI, but the endpoint of Gesture XIII (end of Section B) is stronger harmonically than the endpoint of Gesture VIII (m.9) because the ending sonority (dominant V_7) of Section B ends this section in stable metrical position. This dominant V_7 sonority is a prolongation of the B (tonic sonority) at the end of Gesture I(m.1). Therefore, this ending dominant sonority branches with a strong right branch to the main subordinate left branch at level b.

The Closing Section (at level f) duplicates all elements of branching presented in Gestures I & II and XIV & XV with the exception that the ending sonority of Gesture XV ends on the restatement (prolongation) of the C Major sonority (from Gesture IX, m.11) which is rhythmically stressed by a syncopated endpoint followed by a comma. This C Major tonality must resolve. This is accomplished by the upward progressions contained in Gesture XVI (m.17) which lead to the tonic triad (level b). The elements at level f in the remaining measures (Gestures XVII & XVIII, mm. 19-22) parallel the elements presented in Gestures II & IV (mm. 2-3 & 5-6) in Section A. The endpoint of Gesture XVII ends on an altered syncopated sonority with F# in the soprano and C♮ in the bass. This F# (level e) must resolve upward to release the harmonic tension and rhythmic out-of-phasedness it creates within this time-span. This is accomplished by the final series of vertical progressions which drive upward towards the tonic sonority in Gesture XVIII (mm.21-22). The third vertical sonority in Gesture XVIII is applicable to level f. It is an inverted dominant (V) sonority situated in the third beat of measure 21. The follow-

ing prolongational outline of elements at level f in the Closing Section are presented in figure 11.



Closing Section

Figure 11. Hierarchical Reduction of Prolongational elements at Level f in the Closing Section (mm. 15-22) from Olivier Messiaen's L'Ascension Suite Mvt. I. Paris: Alphose Leduc & Cie, 1934.

The elements of Section A at level e begin to illustrate only those specific elements of prolongational stability rather than elements which are closest to the musical surface. As in all previous levels, the "head" event at the end of Gesture I (m.1) is plotted in each level for continuity of analysis. The first element of level e appears at the end of Gesture II in measure 3 on a dominant sonority connected by a subordinate left branch to the main left branch of the global time-span reduction. The next element of level e is the duplication of elements from Gestures I & II (mm.1-4) in Gestures III & IV (mm.4-6). The first element of level e in Section B appears at the end of Gesture VI(m.7) on a strong syncopated dominant sonority (right branch). The branching for Gesture X (mm.10-11) duplicates the branching from Gesture VI at measure 7. The mixed sonority at the

beginning of Gesture XII (m.12) is in stable metrical position but because of its foreign tonal center and the fact that it begins a downward progression of resolution to the dominant sonority at the end of Gesture XII (mm.12-13), it receives a subordinate right branch at level e to the dominant left branch that appears at the dominant sonority at the endpoint of this region (m.14). The Closing Section (mm.15-22) at level e only yields one element relevant to this hierarchical region. In Gesture XVIII (mm.21-22) the first vertical sonority of the upward progressions to the tonic "goal" (at the endpoint of the movement) connects to the main right branch of the Prolongational Time-Span Reduction . This is a mixed dominant sonority with F# in the soprano and the sustained B (alto & tenor lines) which sustains throughout the entire progression to the tonic. Observe the following illustration of prolongational elements at level e for all twenty-two measures of this movement.

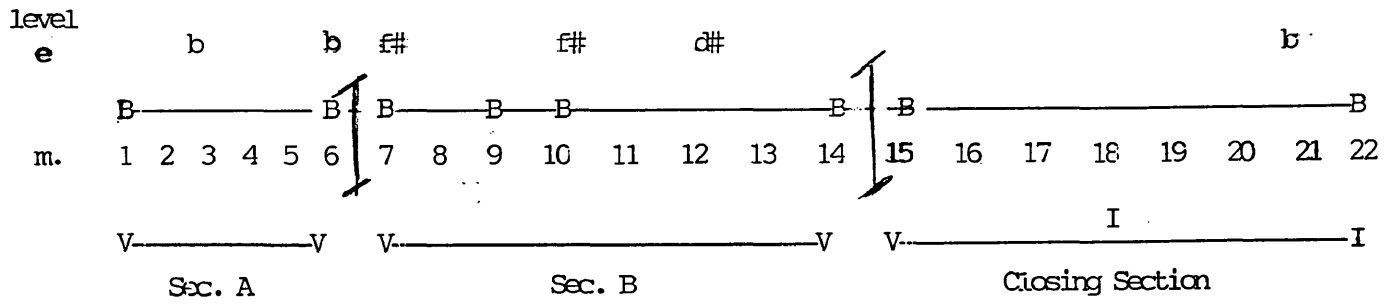


Figure 12. Hierarchical Reduction of Prolongational elements at Level e (mm. 1-22) from Olivier Messiaen's L'Ascension Suite Mvt. I. Paris: Alphose Leduc & Cie, 1934.

The elements of level d in Section A (mm.1-6) illustrate the prolongational strength of the tonic sonority at the end of Gesture III (m.3) which is a repeat of the tonic sonority of Gesture I (m.1). Since Gesture III is a prolongation of Gesture I, the branching for Gesture III compliments the prolongational power of Gesture I with a strong right branch connecting to the main left branch of the Prolongational Time-span Reduction at level d. The next element of level d appears at the beginning of Section B on the opening mixed dominant sonority of Gesture V (m.7). Both the beginning and endpoint of the first three measures of Section B prolong the dominant sonority and connect to the main left branch of the Prolongational Time-span Reduction with a left and right branch. The element at level e found in Gesture XII (mm.12-13) branches subordinately to the right branch (at level b) that marks the endpoint of Section B (m.14). The element of level d in Gesture IX (m.10) duplicates the elements of Gesture V (m.7) which begin Section B. Therefore, Gesture IX (m.10) prolongs the elements of Gesture V (m.7). The Closing Section at level d yields it's first element in Gesture XVI (m.17) on the second sonority of the upward progression to the tonic sonority in measure 18. The subdominant (IV) quality of this vertical sonority is closely related to the tonic and needs to resolve to the tonic goal point in measure 18. The opening mixed dominant sonority in measure 19 (Gesture XVII) begins the final series of ascending progressions that lead to the tonic goal point and the end of this movement (m.22).

The pattern of events which present themselves in Gesture XVII partially duplicate the elements of Gesture II (mm.2-3), Gesture IV (mm.5-6), and Gesture XV (mm. 16) previously presented at level f. The determining factor for the placement of this final dominant sonority (beginning of Gesture XVII) at level d instead of level f (as previously indicated) are as follows: 1) The event is close to the endpoint of the prolongational goal in measure 22 (Tonic sonority). 2) The B in the soprano (m.19, Gesture XVII) leads to the final tonic goal and prolongs the B from the tonic sonority at the endpoint of Gesture XVI (m.18).

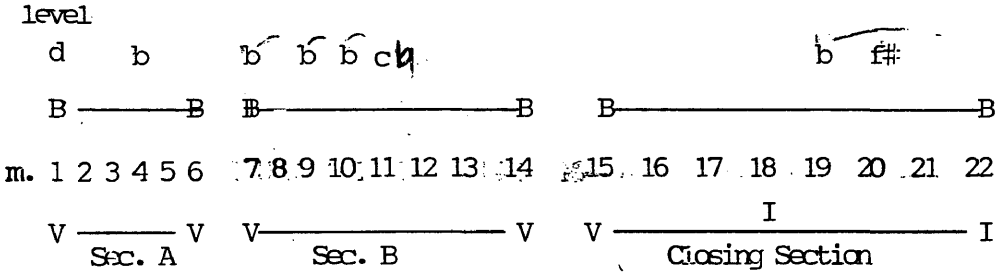


Figure 13. Hierarchical Reduction of Prolongational elements at Level d (mm.1-22) from Olivier Messiaen's L'Ascension Suite Mvt. I. Paris: Alphose Leduc & Cie, 1934.

The remaining hierarchical levels (c thru a) must be discussed in terms of "global" or long term prolongational stability events rather than prolongational events that are derived from smaller time-spans.

Level C is basically the area in which the subdominant (IV) vertical sonority is prolonged in this global time-span. The tonic event at the end of measure 1 (Gesture I is plotted in level c for continuity of level reduction) and the opening dominant sonority (on beat 1) of measure 1 are both prolongationally important

at different levels. As we progress upward in the hierarchical regions of the Prolongational Time-Span Reduction, the importance of the tonic "event" at the end of measure 1 looses it's harmonic importance when discussing the starting or opening sonority of this movement on a "global" scale. It is important for the reader to understand the following outline of harmonic strength within a tonal center.

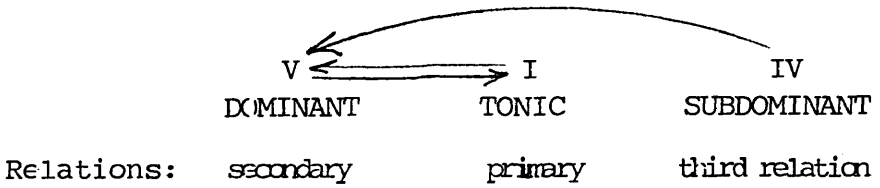


Figure 14. Outline of Harmonic Stability within a Tonal Center.

The tonic sonority is the primary foundation of any tonal center. The dominant (V) is secondary (driving towards the tonic), and the subdominant (IV) is the third strongest relationship to the tonic (being resolved upward to the dominant as in Gesture XVI (mm.17-18), or resolved directly to the tonic). In this particular movement the subdominant (IV) resolves (at level c) subordinately to the dominant (at level b) with a subordinate left branch. The Global Time-Span Reduction for level b deals with the prolongation of the dominant sonorities throughout the movement. From the opening dominant sonority of beat 1 (m.1) thru the end of Section B, the dominant is prolonged at a "global" level. In the Closing Section (mm.15-22) the opening dominant sonority is a direct prolongation of the ending dominant sonority

of Section B. The dominant vertical sonority (third chord in Gesture XVI) on the fourth beat of measure 17 receives a left subordinate branch to it's resolution (tonic sonority at level a) at the end of measure 18. Level B is the primary prolongational force throughout Sections A & B. Since the dominant is secondary to the prolongational strength of the tonic (Sections A & B are prolonged by the dominant (V) sonority), the entire left prolongational branch of the Global Time-Span Reduction connects at the beginning dominant sonority in measure 1 and the ending dominant sonority in measure 14.

The elements at level A (tonic) prolong the tonic sonority in the Closing Section (mm.15-22). The main right branch of the Global Time-Span Reduction connects to the strongest statement of the tonic (endpoint of m.22). The restatement of the tonic in Gesture XIV (m.15) sets up the prolongation to the tonic goal point in measure 22. The tonic sonority in measure 18 (Gesture XVI) prolongs the tonic sonority from measure 15 (Gesture XIV) with the third of the tonic (g#) needing to be resolved upward to B (fifth of the tonic sonority). This process is accomplished thru the previously discussed series of upward progressions that begin in Gesture XVI (mm.17-18) which arrive at the "goal" point of the tonic in E Major in stable metrical position (m.22.).

Conclusion

The theoretical principles and technique of a Generative Theory of Tonal Music (Fred Lerdahl & Ray Jackendoff) were designed specifically for use in the analysis of tonal music. The application of this tonal based concept to a work set in a non-traditional tonal framework finds its justification in the psychological realm of "human cognition" or musical cognition. Musical cognition ("The process by which the listener of a heard piece spontaneously segments or "chunks" the elements or events into groups of some kind " L&J 13) effectively describes the listening process conducive to these out-of-phase" gestures contained in Movement I of the L'Ascension Suite. Since this movement is written in a conventional meter setting with non-conventional phrase groups (gestures) put upon it, the perception of the listener (in feeling a structured rhythmic pulse) is distorted. The process of "Generative Theory" examines all aspects of a composition with regard to Grouping structure (hierarchical segmentation of a piece into motives or phrases), Metrical structure (relation of strong & weak beats), Time-span reduction (assigning pitches to specific hierarchical levels of "structural importance" with respect to their position in grouping and metrical structure), and Prolongational reduction (hierarchy that expresses harmonic and melodic tension and relaxation, continuity and progression) (L&J 9). These four hierarchical process have been applied to the elements contained

within this movement. The primary "tonal" goal (tonic sonority at the end of this movement) supports the theory that all tonal music is basically "goal oriented". The working hypothesis of "Do these out-of-phase gestures work efficiently in a conventional meter setting ?" can be answered "yes", because the analysis presented here, along with the techniques of "Generative Theory", have examined all aspects of this composition and supported all findings in a rule-governed concept.

Notes

[1] The compositional technique of "interversions" is an original musical process created by Olivier Messiaen (quoted in Messiaen's, Technique of My Musical Language vol.1:35-36)

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